



EDI ENVIRONMENTAL DYNAMICS INC.  
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Date Received: 06-OCT-16  
Report Date: 26-OCT-16 18:07 (MT)  
Version: FINAL

Client Phone: 867-393-4882

## Certificate of Analysis

Lab Work Order #: L1840282  
Project P.O. #: NOT SUBMITTED  
Job Reference: MOUNT NANSEN 16-Y-0089  
C of C Numbers:  
Legal Site Desc:

Comments: The bioassay analysis was subcontracted to Nautilus Environmental located in Burnaby, BC. Refer to their report appended for detail.

Can Dang  
Senior Account Manager

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## ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	Description	Sampled Date	Sampled Time	Client ID	L1840282-1	L1840282-2	L1840282-3	L1840282-4	L1840282-5
					Water	Water	Water	Water	Water
		03-OCT-16	15:15	WQ-VC-UMN	03-OCT-16	03-OCT-16	04-OCT-16	04-OCT-16	04-OCT-16
					15:15	14:30	16:45	18:30	18:10
					WQ-VC-UMN	WQ-VC-R	WQ-VC-DBC	WQ-BC	WQ-VC-U
Grouping	Analyte								
<b>WATER</b>									
<b>Physical Tests</b>	Colour, True (CU)								
	Conductivity (uS/cm)	232	209	198	325	178			
	Hardness (as CaCO3) (mg/L)	113	104	95.7	160	86.1			
	pH (pH)	7.99	7.94	7.94	8.09	7.91			
	Total Suspended Solids (mg/L)	6.2	5.8	22.8	54.1	<3.0			
	Total Dissolved Solids (mg/L)								
	TDS (Calculated) (mg/L)	134	122	111	199	98.9			
	Turbidity (NTU)								
<b>Anions and Nutrients</b>	Alkalinity, Bicarbonate (as CaCO3) (mg/L)	89.5	82.1	87.2	106	83.7			
	Alkalinity, Carbonate (as CaCO3) (mg/L)	<1.0	<1.0	<1.0	<1.0	<1.0			
	Alkalinity, Hydroxide (as CaCO3) (mg/L)	<1.0	<1.0	<1.0	<1.0	<1.0			
	Alkalinity, Total (as CaCO3) (mg/L)	89.5	82.1	87.2	106	83.7			
	Ammonia, Total (as N) (mg/L)	0.0075	0.0086	0.0065	0.0325	<0.0050			
	Bromide (Br) (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050			
	Chloride (Cl) (mg/L)	<0.50	<0.50	<0.50	<0.50	<0.50			
	Fluoride (F) (mg/L)	0.056	0.053	0.052	0.079	0.048			
	Nitrate (as N) (mg/L)	0.111	0.104	0.102	0.0813	0.0978			
	Nitrite (as N) (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010			
	Sulfate (SO4) (mg/L)	37.5	32.9	21.6	73.1	15.6			
	Anion Sum (meq/L)	2.58	2.34	2.20	3.65	2.01			
	Cation Sum (meq/L)	2.40	2.22	2.04	3.41	1.83			
	Cation - Anion Balance (%)	-3.7	-2.6	-3.9	-3.4	-4.6			
<b>Cyanides</b>	Cyanide, Weak Acid Diss (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050			
	Cyanide, Total (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050			
	Cyanate (mg/L)	<0.20	<0.20	<0.20	<0.20	0.23			
	Thiocyanate (SCN) (mg/L)	<0.50	<0.50	<0.50	<0.50	<0.50			
<b>Bacteriological Tests</b>	E. coli (MPN/100mL)								
	Coliform Bacteria - Total (MPN/100mL)								
<b>Total Metals</b>	Aluminum (Al)-Total (mg/L)	0.154	0.147	0.329	0.821	0.0507			
	Antimony (Sb)-Total (mg/L)	0.00029	0.00027	0.00030	0.00096	<0.00010			
	Arsenic (As)-Total (mg/L)	0.00236	0.00220	0.00282	0.0124	0.00037			
	Barium (Ba)-Total (mg/L)	0.0690	0.0671	0.0726	0.0793	0.0652			
	Beryllium (Be)-Total (mg/L)	<0.000020	<0.000020	0.000021	0.000050	<0.000020			
	Bismuth (Bi)-Total (mg/L)	<0.000050	<0.000050	<0.000050	0.000092	<0.000050			
	Boron (B)-Total (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010			
	Cadmium (Cd)-Total (mg/L)	0.0000537	0.0000482	0.0000735	0.000255	0.0000214			

\* Please refer to the Reference Information section for an explanation of any qualifiers detected.

# ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1840282-6 Water 04-OCT-16 12:15 WQ-TP	L1840282-7 Water 05-OCT-16 09:30 WQ-PW	L1840282-8 Water 04-OCT-16 09:40 WQ-PC-U	L1840282-9 Water 04-OCT-16 09:00 WQ-PC-D	L1840282-10 Water 04-OCT-16 09:10 WQ-PC-D-R
Grouping	Analyte					
<b>WATER</b>						
<b>Physical Tests</b>	Colour, True (CU)		<5.0			
	Conductivity (uS/cm)	1280	345	667	671	652
	Hardness (as CaCO3) (mg/L)	714	177 <sup>HTC</sup>	330	333	333
	pH (pH)	8.10	8.06	7.97	8.06	8.03
	Total Suspended Solids (mg/L)	4.7		294	190	194
	Total Dissolved Solids (mg/L)		205			
	TDS (Calculated) (mg/L)	1020		446	436	450
	Turbidity (NTU)		0.12			
<b>Anions and Nutrients</b>	Alkalinity, Bicarbonate (as CaCO3) (mg/L)	110		117	120	117
	Alkalinity, Carbonate (as CaCO3) (mg/L)	<1.0		<1.0	<1.0	<1.0
	Alkalinity, Hydroxide (as CaCO3) (mg/L)	<1.0		<1.0	<1.0	<1.0
	Alkalinity, Total (as CaCO3) (mg/L)	110	163	117	120	117
	Ammonia, Total (as N) (mg/L)	0.0371		0.683	0.616	0.624
	Bromide (Br) (mg/L)	<0.25 <sup>DLDS</sup>		<0.25 <sup>DLDS</sup>	<0.25 <sup>DLDS</sup>	<0.25 <sup>DLDS</sup>
	Chloride (Cl) (mg/L)	<2.5 <sup>DLDS</sup>	<0.50	<2.5 <sup>DLDS</sup>	<2.5 <sup>DLDS</sup>	<2.5 <sup>DLDS</sup>
	Fluoride (F) (mg/L)	0.22	0.102	<0.10 <sup>DLDS</sup>	<0.10 <sup>DLDS</sup>	<0.10 <sup>DLDS</sup>
	Nitrate (as N) (mg/L)	0.034	0.123	0.084	0.107	0.113
	Nitrite (as N) (mg/L)	<0.0050 <sup>DLDS</sup>	<0.0010	<0.0050 <sup>DLDS</sup>	<0.0050 <sup>DLDS</sup>	<0.0050 <sup>DLDS</sup>
	Sulfate (SO4) (mg/L)	660	31.0	248	235	251
	Anion Sum (meq/L)	16.0		7.50	7.30	7.57
	Cation Sum (meq/L)	15.2		7.01	7.06	7.07
	Cation - Anion Balance (%)	-2.3		-3.4	-1.7	-3.4
<b>Cyanides</b>	Cyanide, Weak Acid Diss (mg/L)	<0.0050		<0.0050	<0.0050	<0.0050
	Cyanide, Total (mg/L)	<0.0050		<0.0050	<0.0050	<0.0050
	Cyanate (mg/L)	<0.20		<0.20	0.75	0.40
	Thiocyanate (SCN) (mg/L)	<0.50		<0.50	<0.50	<0.50
<b>Bacteriological Tests</b>	E. coli (MPN/100mL)		<1 <sup>PEHR</sup>			
	Coliform Bacteria - Total (MPN/100mL)		<1 <sup>PEHR</sup>			
<b>Total Metals</b>	Aluminum (Al)-Total (mg/L)	0.0230	<0.010	4.63	3.25	3.15
	Antimony (Sb)-Total (mg/L)	0.0326	<0.00050	0.00844	0.00649	0.00653
	Arsenic (As)-Total (mg/L)	0.112	0.00036	0.118	0.0779	0.0763
	Barium (Ba)-Total (mg/L)	0.0128	0.081	0.180	0.149	0.145
	Beryllium (Be)-Total (mg/L)	<0.000020		0.000361	0.000233	0.000235
	Bismuth (Bi)-Total (mg/L)	0.000079		0.00155	0.000883	0.000886
	Boron (B)-Total (mg/L)	0.075	<0.10	<0.010	<0.010	<0.010
	Cadmium (Cd)-Total (mg/L)	0.000469	<0.00020	0.00202	0.00134	0.00129

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## ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID	L1840282-11 Water 03-OCT-16 16:40 WQ-DC-R	L1840282-12 Water 05-OCT-16 08:50 FIELD BLANK	L1840282-13 Water 05-OCT-16 TRAVEL BLANK	L1840282-15 Water 04-OCT-16 11:30 WQ-SEEP	L1840282-16 Water 04-OCT-16 11:40 WQ-SEEP-R	
Grouping	Analyte					
<b>WATER</b>						
<b>Physical Tests</b>	Colour, True (CU)					
	Conductivity (uS/cm)	1040	<2.0	<2.0	1450	1470
	Hardness (as CaCO3) (mg/L)	578	<0.50	<0.50	824	785
	pH (pH)	7.89	5.33	5.33	7.52	7.46
	Total Suspended Solids (mg/L)	6.8	<3.0	<3.0	24.2	26.9
	Total Dissolved Solids (mg/L)					
	TDS (Calculated) (mg/L)	764	<1.0	<1.0	1140	1130
	Turbidity (NTU)					
<b>Anions and Nutrients</b>	Alkalinity, Bicarbonate (as CaCO3) (mg/L)	183	<1.0	<1.0	279	278
	Alkalinity, Carbonate (as CaCO3) (mg/L)	<1.0	<1.0	<1.0	<1.0	<1.0
	Alkalinity, Hydroxide (as CaCO3) (mg/L)	<1.0	<1.0	<1.0	<1.0	<1.0
	Alkalinity, Total (as CaCO3) (mg/L)	183	<1.0	<1.0	279	278
	Ammonia, Total (as N) (mg/L)	0.384	<0.0050	0.0085	4.21	4.25
	Bromide (Br) (mg/L)	<0.25 <sup>DLDS</sup>	<0.050	<0.050	<0.50 <sup>DLDS</sup>	<0.50 <sup>DLDS</sup>
	Chloride (Cl) (mg/L)	<2.5 <sup>DLDS</sup>	<0.50	<0.50	<5.0 <sup>DLDS</sup>	<5.0 <sup>DLDS</sup>
	Fluoride (F) (mg/L)	<0.10 <sup>DLDS</sup>	<0.020	<0.020	<0.20 <sup>DLDS</sup>	<0.20 <sup>DLDS</sup>
	Nitrate (as N) (mg/L)	0.573	<0.0050	<0.0050	0.841	0.847
	Nitrite (as N) (mg/L)	0.0084	<0.0010	<0.0010	0.033	0.032
	Sulfate (SO4) (mg/L)	438	<0.30	<0.30	616	622
	Anion Sum (meq/L)	12.8	<0.10	<0.10	18.5	18.6
	Cation Sum (meq/L)	12.2	<0.10	<0.10	19.2	18.3
	Cation - Anion Balance (%)	-2.5	0.0	0.0	2.1	-0.7
<b>Cyanides</b>	Cyanide, Weak Acid Diss (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Cyanide, Total (mg/L)	<0.0050	<0.0050	<0.0050	0.0152	0.0153
	Cyanate (mg/L)	<0.20	<0.20		1.14	0.60
	Thiocyanate (SCN) (mg/L)	<0.50	<0.50	<0.50	5.10	5.09
<b>Bacteriological Tests</b>	E. coli (MPN/100mL)					
	Coliform Bacteria - Total (MPN/100mL)					
<b>Total Metals</b>	Aluminum (Al)-Total (mg/L)	0.0516	<0.0030	<0.0030	0.0234	0.0240
	Antimony (Sb)-Total (mg/L)	0.00126	<0.00010	<0.00010	0.00056	0.00050
	Arsenic (As)-Total (mg/L)	0.0151	<0.00010	<0.00010	0.0536	0.0525
	Barium (Ba)-Total (mg/L)	0.0482	<0.000050	<0.000050	0.0608	0.0604
	Beryllium (Be)-Total (mg/L)	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
	Bismuth (Bi)-Total (mg/L)	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	Boron (B)-Total (mg/L)	0.016	<0.010	<0.010	0.050	0.049
	Cadmium (Cd)-Total (mg/L)	0.0000440	<0.0000050	<0.0000050	0.000419	0.000411

\* Please refer to the Reference Information section for an explanation of any qualifiers detected.

## ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID	L1840282-17 Water 03-OCT-16 18:25 WQ-DC-DX+105	L1840282-18 Water 03-OCT-16 19:25 WQ-DC-D16	L1840282-19 Water 04-OCT-16 12:40 WQ-DC-B	L1840282-20 Water 04-OCT-16 10:55 WQ-DC-U	
Grouping	Analyte				
<b>WATER</b>					
<b>Physical Tests</b>	Colour, True (CU)				
	Conductivity (uS/cm)	1090	1450	1350	1350
	Hardness (as CaCO3) (mg/L)	617	887	800	724
	pH (pH)	7.89	8.18	7.89	8.04
	Total Suspended Solids (mg/L)	4.2	62.8	25.2	13.0
	Total Dissolved Solids (mg/L)				
	TDS (Calculated) (mg/L)	783	1130	1040	1030
	Turbidity (NTU)				
<b>Anions and Nutrients</b>	Alkalinity, Bicarbonate (as CaCO3) (mg/L)	278	296	210	242
	Alkalinity, Carbonate (as CaCO3) (mg/L)	<1.0	<1.0	<1.0	<1.0
	Alkalinity, Hydroxide (as CaCO3) (mg/L)	<1.0	<1.0	<1.0	<1.0
	Alkalinity, Total (as CaCO3) (mg/L)	278	296	210	242
	Ammonia, Total (as N) (mg/L)	0.0218	0.172	0.199	1.57
	Bromide (Br) (mg/L)	<0.25 <sup>DLDS</sup>	<0.50 <sup>DLDS</sup>	<0.25 <sup>DLDS</sup>	<0.25 <sup>DLDS</sup>
	Chloride (Cl) (mg/L)	<2.5 <sup>DLDS</sup>	<5.0 <sup>DLDS</sup>	<2.5 <sup>DLDS</sup>	<2.5 <sup>DLDS</sup>
	Fluoride (F) (mg/L)	0.17	<0.20 <sup>DLDS</sup>	<0.10 <sup>DLDS</sup>	<0.10 <sup>DLDS</sup>
	Nitrate (as N) (mg/L)	<0.025 <sup>DLDS</sup>	0.105 <sup>DLDS</sup>	0.126 <sup>DLDS</sup>	0.443
	Nitrite (as N) (mg/L)	<0.0050 <sup>DLDS</sup>	<0.010 <sup>DLDS</sup>	<0.0050 <sup>DLDS</sup>	0.0084
	Sulfate (SO4) (mg/L)	393	646	633	602
	Anion Sum (meq/L)	13.7	19.4	17.4	17.4
	Cation Sum (meq/L)	12.7	18.2	16.7	15.5
	Cation - Anion Balance (%)	-4.0	-3.1	-2.1	-5.6
<b>Cyanides</b>	Cyanide, Weak Acid Diss (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050
	Cyanide, Total (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050
	Cyanate (mg/L)	<0.20	0.33	<0.20	1.08
	Thiocyanate (SCN) (mg/L)	<0.50	<0.50	<0.50	0.56
<b>Bacteriological Tests</b>	E. coli (MPN/100mL)				
	Coliform Bacteria - Total (MPN/100mL)				
<b>Total Metals</b>	Aluminum (Al)-Total (mg/L)	0.141	0.626	0.216	0.0860
	Antimony (Sb)-Total (mg/L)	0.0103	0.00912	0.00187	0.00110
	Arsenic (As)-Total (mg/L)	0.103	0.0206	0.0125	0.0221
	Barium (Ba)-Total (mg/L)	0.0134	0.0380	0.0529	0.0514
	Beryllium (Be)-Total (mg/L)	<0.000020	0.000026	<0.000020	<0.000020
	Bismuth (Bi)-Total (mg/L)	<0.000050	<0.000050	<0.000050	<0.000050
	Boron (B)-Total (mg/L)	<0.010	0.028	0.013	0.030
	Cadmium (Cd)-Total (mg/L)	0.00423	0.000823	0.0000540	0.0000457

\* Please refer to the Reference Information section for an explanation of any qualifiers detected.

## ALS ENVIRONMENTAL ANALYTICAL REPORT

26-OCT-16 18:07 (MT)

Version: FINAL

		Sample ID	L1840282-1	L1840282-2	L1840282-3	L1840282-4	L1840282-5
		Description	Water	Water	Water	Water	Water
		Sampled Date	03-OCT-16	03-OCT-16	04-OCT-16	04-OCT-16	04-OCT-16
		Sampled Time	15:15	14:30	16:45	18:30	18:10
		Client ID	WQ-VC-UMN	WQ-VC-R	WQ-VC-DBC	WQ-BC	WQ-VC-U
Grouping	Analyte						
<b>WATER</b>							
<b>Total Metals</b>	Calcium (Ca)-Total (mg/L)		30.7	27.5	25.9	47.3	23.3
	Chromium (Cr)-Total (mg/L)		0.00030	0.00033	0.00059	0.00112	0.00018
	Cobalt (Co)-Total (mg/L)		0.00019	0.00023	0.00032	0.00069	0.00013
	Copper (Cu)-Total (mg/L)		0.00162	0.00192	0.00213	0.00399	0.00126
	Iron (Fe)-Total (mg/L)		0.321	0.417	0.584	1.70	0.164
	Lead (Pb)-Total (mg/L)		0.00124	0.000952	0.00173	0.00747	0.000087
	Lithium (Li)-Total (mg/L)		<0.0010	<0.0010	<0.0010	0.0017	<0.0010
	Magnesium (Mg)-Total (mg/L)		9.45	8.49	8.19	11.4	7.64
	Manganese (Mn)-Total (mg/L)		0.0763	0.0805	0.0873	0.350	0.0445
	Mercury (Hg)-Total (mg/L)		<0.0000050	<0.0000050	0.0000050	0.0000081	<0.0000050
	Molybdenum (Mo)-Total (mg/L)		0.000404	0.000368	0.000401	0.000911	0.000351
	Nickel (Ni)-Total (mg/L)		0.00058	0.00078	0.00069	0.00130	<0.00050
	Phosphorus (P)-Total (mg/L)		<0.050	<0.050	<0.050	<0.050	<0.050
	Potassium (K)-Total (mg/L)		0.70	0.68	0.67	1.13	0.56
	Selenium (Se)-Total (mg/L)		<0.000050	0.000053	<0.000050	0.000057	<0.000050
	Silicon (Si)-Total (mg/L)		6.68	6.78	6.69	8.40	6.09
	Silver (Ag)-Total (mg/L)		0.000015	<0.000010	0.000019	0.000079	<0.000010
	Sodium (Na)-Total (mg/L)		2.92	2.75	2.53	3.83	2.34
	Strontium (Sr)-Total (mg/L)		0.285	0.255	0.280	0.319	0.271
	Sulfur (S)-Total (mg/L)		12.8	11.1	7.21	24.7	5.14
	Thallium (Tl)-Total (mg/L)		<0.000010	<0.000010	<0.000010	0.000026	<0.000010
	Tin (Sn)-Total (mg/L)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Titanium (Ti)-Total (mg/L)		0.00471	0.00437	0.0106	0.0264	0.00135
	Uranium (U)-Total (mg/L)		0.000699	0.000606	0.000744	0.00203	0.000562
	Vanadium (V)-Total (mg/L)		0.00072	0.00073	0.00133	0.00340	<0.00050
	Zinc (Zn)-Total (mg/L)		0.0046	0.0052	0.0058	0.0197	<0.0030
	Zirconium (Zr)-Total (mg/L)		<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
<b>Dissolved Metals</b>	Dissolved Mercury Filtration Location		FIELD	FIELD	FIELD	FIELD	FIELD
	Dissolved Metals Filtration Location		FIELD	FIELD	FIELD	FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)		0.0144	0.0222	0.0138	0.0134	0.0114
	Antimony (Sb)-Dissolved (mg/L)		0.00017	0.00017	0.00012	0.00040	<0.00010
	Arsenic (As)-Dissolved (mg/L)		0.00088	0.00090	0.00054	0.00288	0.00026
	Barium (Ba)-Dissolved (mg/L)		0.0634	0.0636	0.0620	0.0557	0.0623
	Beryllium (Be)-Dissolved (mg/L)		<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
	Bismuth (Bi)-Dissolved (mg/L)		<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	Boron (B)-Dissolved (mg/L)		<0.010	<0.010	<0.010	<0.010	<0.010
	Cadmium (Cd)-Dissolved (mg/L)		0.0000220	0.0000242	0.0000206	0.0000534	0.0000113

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## ALS ENVIRONMENTAL ANALYTICAL REPORT

26-OCT-16 18:07 (MT)

Version: FINAL

		Sample ID	L1840282-6	L1840282-7	L1840282-8	L1840282-9	L1840282-10
		Description	Water	Water	Water	Water	Water
		Sampled Date	04-OCT-16	05-OCT-16	04-OCT-16	04-OCT-16	04-OCT-16
		Sampled Time	12:15	09:30	09:40	09:00	09:10
		Client ID	WQ-TP	WQ-PW	WQ-PC-U	WQ-PC-D	WQ-PC-D-R
Grouping	Analyte						
<b>WATER</b>							
<b>Total Metals</b>	Calcium (Ca)-Total (mg/L)		227	41.3	98.2	96.5	96.8
	Chromium (Cr)-Total (mg/L)		0.00080	<0.0020	0.00508	0.00347	0.00346
	Cobalt (Co)-Total (mg/L)		0.00047		0.00482	0.00334	0.00331
	Copper (Cu)-Total (mg/L)		0.0210	<0.0010	0.0260	0.0175	0.0166
	Iron (Fe)-Total (mg/L)		0.225	<0.030	12.8	8.48	8.34
	Lead (Pb)-Total (mg/L)		0.00694	0.00064	0.0928	0.0536	0.0540
	Lithium (Li)-Total (mg/L)		0.0113		0.0048	0.0036	0.0036
	Magnesium (Mg)-Total (mg/L)		43.0	17.8	24.3	24.6	24.7
	Manganese (Mn)-Total (mg/L)		0.146	<0.0020	1.65	1.46	1.42
	Mercury (Hg)-Total (mg/L)		0.0000145	<0.00020	0.000034	0.000034	0.000033
	Molybdenum (Mo)-Total (mg/L)		0.00126		0.000926	0.000778	0.000814
	Nickel (Ni)-Total (mg/L)		0.00101		0.00539	0.00382	0.00378
	Phosphorus (P)-Total (mg/L)		<0.050		0.156	0.086	0.119
	Potassium (K)-Total (mg/L)		15.1	0.84	2.26	2.05	2.01
	Selenium (Se)-Total (mg/L)		0.000057	<0.0010	0.000173	0.000139	0.000142
	Silicon (Si)-Total (mg/L)		3.39		16.2	13.2	13.6
	Silver (Ag)-Total (mg/L)		0.000206		0.00127	0.000802	0.000811
	Sodium (Na)-Total (mg/L)		14.8	4.5	6.61	6.79	6.81
	Strontium (Sr)-Total (mg/L)		0.618		0.561	0.551	0.562
	Sulfur (S)-Total (mg/L)		244		82.9	82.8	91.2
	Thallium (Tl)-Total (mg/L)		0.000138		0.000177	0.000115	0.000112
	Tin (Sn)-Total (mg/L)		<0.00010		<0.00010	<0.00010	<0.00010
	Titanium (Ti)-Total (mg/L)		0.00043		0.0811	0.0628	0.0640
	Uranium (U)-Total (mg/L)		0.00101	0.00165	0.00270	0.00256	0.00255
	Vanadium (V)-Total (mg/L)		<0.00050		0.0155	0.0111	0.0110
	Zinc (Zn)-Total (mg/L)		0.0513	<0.050	0.247	0.164	0.158
	Zirconium (Zr)-Total (mg/L)		<0.00030		<0.00030	<0.00030	<0.00030
<b>Dissolved Metals</b>	Dissolved Mercury Filtration Location		FIELD		FIELD	FIELD	FIELD
	Dissolved Metals Filtration Location		FIELD		FIELD	FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)		0.0027		0.0065	0.0077	0.0080
	Antimony (Sb)-Dissolved (mg/L)		0.0314		0.00164	0.00194	0.00194
	Arsenic (As)-Dissolved (mg/L)		0.0855		0.00684	0.00704	0.00700
	Barium (Ba)-Dissolved (mg/L)		0.0122		0.0783	0.0801	0.0795
	Beryllium (Be)-Dissolved (mg/L)		<0.000020		<0.000020	<0.000020	<0.000020
	Bismuth (Bi)-Dissolved (mg/L)		<0.000050		<0.000050	<0.000050	<0.000050
	Boron (B)-Dissolved (mg/L)		0.068		<0.010	<0.010	<0.010
	Cadmium (Cd)-Dissolved (mg/L)		0.000367		0.000204	0.000184	0.000189

\* Please refer to the Reference Information section for an explanation of any qualifiers detected.

## ALS ENVIRONMENTAL ANALYTICAL REPORT

26-OCT-16 18:07 (MT)

Version: FINAL

		Sample ID	L1840282-11	L1840282-12	L1840282-13	L1840282-15	L1840282-16
		Description	Water	Water	Water	Water	Water
		Sampled Date	03-OCT-16	05-OCT-16	05-OCT-16	04-OCT-16	04-OCT-16
		Sampled Time	16:40	08:50		11:30	11:40
		Client ID	WQ-DC-R	FIELD BLANK	TRAVEL BLANK	WQ-SEEP	WQ-SEEP-R
Grouping	Analyte						
<b>WATER</b>							
<b>Total Metals</b>	Calcium (Ca)-Total (mg/L)		149	<0.050	<0.050	241	234
	Chromium (Cr)-Total (mg/L)		0.00035	<0.00010	<0.00010	0.00058	0.00061
	Cobalt (Co)-Total (mg/L)		0.00114	<0.00010	<0.00010	0.00789	0.00794
	Copper (Cu)-Total (mg/L)		0.00107	<0.00050	<0.00050	0.00339	0.00343
	Iron (Fe)-Total (mg/L)		1.90	<0.010	<0.010	9.62	9.52
	Lead (Pb)-Total (mg/L)		0.000308	<0.000050	<0.000050	0.000122	0.000066
	Lithium (Li)-Total (mg/L)		0.0018	<0.0010	<0.0010	0.0010	<0.0010
	Magnesium (Mg)-Total (mg/L)		51.8	<0.10	<0.10	56.9	56.1
	Manganese (Mn)-Total (mg/L)		0.901	<0.00010	<0.00010	5.40	5.38
	Mercury (Hg)-Total (mg/L)		<0.0000050	<0.0000050	<0.0000050	0.0000083	0.0000069
	Molybdenum (Mo)-Total (mg/L)		0.000356	<0.000050	<0.000050	0.000988	0.000979
	Nickel (Ni)-Total (mg/L)		0.00108	<0.00050	<0.00050	0.00343	0.00338
	Phosphorus (P)-Total (mg/L)		<0.050	<0.050	<0.050	<0.050	<0.050
	Potassium (K)-Total (mg/L)		2.76	<0.10	<0.10	6.21	6.02
	Selenium (Se)-Total (mg/L)		0.000110	<0.000050	<0.000050	0.000313	0.000328
	Silicon (Si)-Total (mg/L)		6.18	<0.050	<0.050	8.49	8.17
	Silver (Ag)-Total (mg/L)		<0.000010	<0.000010	<0.000010	0.000023	0.000022
	Sodium (Na)-Total (mg/L)		11.3	<0.050	<0.050	38.6	38.4
	Strontium (Sr)-Total (mg/L)		0.481	<0.00020	<0.00020	0.729	0.720
	Sulfur (S)-Total (mg/L)		148	<0.50	<0.50	249	242
	Thallium (Tl)-Total (mg/L)		<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
	Tin (Sn)-Total (mg/L)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Titanium (Ti)-Total (mg/L)		0.00221	<0.00030	<0.00030	0.00105	0.00104
	Uranium (U)-Total (mg/L)		0.00159	<0.000010	<0.000010	0.00216	0.00217
	Vanadium (V)-Total (mg/L)		0.00079	<0.00050	<0.00050	0.00229	0.00229
	Zinc (Zn)-Total (mg/L)		0.0121	<0.0030	<0.0030	0.0381	0.0372
	Zirconium (Zr)-Total (mg/L)		<0.00030	<0.00030	<0.00030	0.00067	0.00074
<b>Dissolved Metals</b>	Dissolved Mercury Filtration Location		FIELD	FIELD	LAB	FIELD	FIELD
	Dissolved Metals Filtration Location		FIELD	FIELD	LAB	FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)		0.0117	<0.0010	<0.0010	0.0167	0.0151
	Antimony (Sb)-Dissolved (mg/L)		0.00114	<0.00010	<0.00010	0.00044	0.00043
	Arsenic (As)-Dissolved (mg/L)		0.00749	<0.00010	<0.00010	0.0435	0.0425
	Barium (Ba)-Dissolved (mg/L)		0.0452	<0.000050	<0.000050	0.0591	0.0575
	Beryllium (Be)-Dissolved (mg/L)		<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
	Bismuth (Bi)-Dissolved (mg/L)		<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	Boron (B)-Dissolved (mg/L)		0.015	<0.010	<0.010	0.047	0.046
	Cadmium (Cd)-Dissolved (mg/L)		0.0000316	<0.0000050	<0.0000050	0.000353	0.000353

\* Please refer to the Reference Information section for an explanation of any qualifiers detected.



## ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID Description Sampled Date Sampled Time Client ID	L1840282-17 Water 03-OCT-16 18:25 WQ-DC-DX+105	L1840282-18 Water 03-OCT-16 19:25 WQ-DC-D16	L1840282-19 Water 04-OCT-16 12:40 WQ-DC-B	L1840282-20 Water 04-OCT-16 10:55 WQ-DC-U
Grouping	Analyte					
<b>WATER</b>						
<b>Total Metals</b>	Calcium (Ca)-Total (mg/L)	168	209	186	196	
	Chromium (Cr)-Total (mg/L)	0.00023	0.00103	0.00053	0.00038	
	Cobalt (Co)-Total (mg/L)	0.00095	0.00073	0.00057	0.00249	
	Copper (Cu)-Total (mg/L)	0.00111	0.00242	0.00113	0.00128	
	Iron (Fe)-Total (mg/L)	1.26	2.02	4.72	2.68	
	Lead (Pb)-Total (mg/L)	0.000863	0.00137	0.000323	0.000133	
	Lithium (Li)-Total (mg/L)	0.0085	0.0078	0.0032	0.0030	
	Magnesium (Mg)-Total (mg/L)	55.3	90.4	84.7	62.5	
	Manganese (Mn)-Total (mg/L)	1.16	0.816	0.727	2.30	
	Mercury (Hg)-Total (mg/L)	<0.0000050	<0.0000050	<0.0000050	<0.0000050	
	Molybdenum (Mo)-Total (mg/L)	0.000339	0.000271	0.000302	0.000558	
	Nickel (Ni)-Total (mg/L)	0.00174	0.00152	0.00097	0.00158	
	Phosphorus (P)-Total (mg/L)	<0.050	0.058	<0.050	<0.050	
	Potassium (K)-Total (mg/L)	3.69	4.27	3.19	3.96	
	Selenium (Se)-Total (mg/L)	<0.000050	0.000081	0.000082	0.000146	
	Silicon (Si)-Total (mg/L)	7.23	7.24	6.65	6.95	
	Silver (Ag)-Total (mg/L)	0.000014	0.000027	<0.000010	<0.000010	
	Sodium (Na)-Total (mg/L)	5.12	6.99	9.53	17.7	
	Strontium (Sr)-Total (mg/L)	0.410	0.545	0.632	0.627	
	Sulfur (S)-Total (mg/L)	146	228	228	203	
	Thallium (Tl)-Total (mg/L)	0.000109	0.000048	<0.000010	<0.000010	
	Tin (Sn)-Total (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	
	Titanium (Ti)-Total (mg/L)	0.00993	0.0347	0.0115	0.00454	
	Uranium (U)-Total (mg/L)	0.00416	0.00339	0.00239	0.00193	
	Vanadium (V)-Total (mg/L)	0.00088	0.00291	0.00145	0.00096	
	Zinc (Zn)-Total (mg/L)	0.856	0.314	0.0242	0.0138	
	Zirconium (Zr)-Total (mg/L)	<0.00030	<0.00030	<0.00030	<0.00030	
<b>Dissolved Metals</b>	Dissolved Mercury Filtration Location	FIELD	FIELD	FIELD	FIELD	
	Dissolved Metals Filtration Location	FIELD	FIELD	FIELD	FIELD	
	Aluminum (Al)-Dissolved (mg/L)	0.0010	0.0050	0.0049	0.0068	
	Antimony (Sb)-Dissolved (mg/L)	0.00927	0.00926	0.00178	0.00103	
	Arsenic (As)-Dissolved (mg/L)	0.0155	0.0117	0.00671	0.0176	
	Barium (Ba)-Dissolved (mg/L)	0.0107	0.0307	0.0464	0.0479	
	Beryllium (Be)-Dissolved (mg/L)	<0.000020	<0.000020	<0.000020	<0.000020	
	Bismuth (Bi)-Dissolved (mg/L)	<0.000050	<0.000050	<0.000050	<0.000050	
	Boron (B)-Dissolved (mg/L)	<0.010	0.027	0.013	0.024	
	Cadmium (Cd)-Dissolved (mg/L)	0.000880	0.000220	0.0000224	0.0000296	

\* Please refer to the Reference Information section for an explanation of any qualifiers detected.

## ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1840282-1	L1840282-2	L1840282-3	L1840282-4	L1840282-5
		Description	Water	Water	Water	Water	Water
		Sampled Date	03-OCT-16	03-OCT-16	04-OCT-16	04-OCT-16	04-OCT-16
		Sampled Time	15:15	14:30	16:45	18:30	18:10
		Client ID	WQ-VC-UMN	WQ-VC-R	WQ-VC-DBC	WQ-BC	WQ-VC-U
Grouping	Analyte						
<b>WATER</b>							
<b>Dissolved Metals</b>	Calcium (Ca)-Dissolved (mg/L)		30.0	27.5	25.6	46.2	22.7
	Chromium (Cr)-Dissolved (mg/L)		<0.00010	0.00014	<0.00010	0.00012	<0.00010
	Cobalt (Co)-Dissolved (mg/L)		<0.00010	0.00014	<0.00010	0.00018	<0.00010
	Copper (Cu)-Dissolved (mg/L)		0.00103	0.00119	0.00110	0.00138	0.00094
	Iron (Fe)-Dissolved (mg/L)		0.047	0.113	0.040	0.055	0.038
	Lead (Pb)-Dissolved (mg/L)		0.000058	0.000064	<0.000050	0.000126	<0.000050
	Lithium (Li)-Dissolved (mg/L)		<0.0010	<0.0010	<0.0010	0.0014	<0.0010
	Magnesium (Mg)-Dissolved (mg/L)		9.17	8.50	7.74	11.0	7.11
	Manganese (Mn)-Dissolved (mg/L)		0.0654	0.0700	0.0558	0.304	0.0233
	Mercury (Hg)-Dissolved (mg/L)		<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
	Molybdenum (Mo)-Dissolved (mg/L)		0.000390	0.000355	0.000422	0.000962	0.000321
	Nickel (Ni)-Dissolved (mg/L)		<0.00050	0.00058	<0.00050	<0.00050	<0.00050
	Phosphorus (P)-Dissolved (mg/L)		<0.050	<0.050	<0.050	<0.050	<0.050
	Potassium (K)-Dissolved (mg/L)		0.66	0.66	0.58	0.93	0.52
	Selenium (Se)-Dissolved (mg/L)		<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	Silicon (Si)-Dissolved (mg/L)		6.10	6.25	5.99	6.55	5.83
	Silver (Ag)-Dissolved (mg/L)		<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
	Sodium (Na)-Dissolved (mg/L)		2.79	2.73	2.39	3.67	2.18
	Strontium (Sr)-Dissolved (mg/L)		0.278	0.250	0.269	0.305	0.261
	Sulfur (S)-Dissolved (mg/L)		11.9	10.4	6.94	23.1	4.89
	Thallium (Tl)-Dissolved (mg/L)		<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
	Tin (Sn)-Dissolved (mg/L)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Titanium (Ti)-Dissolved (mg/L)		<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
	Uranium (U)-Dissolved (mg/L)		0.000646	0.000568	0.000678	0.00184	0.000519
	Vanadium (V)-Dissolved (mg/L)		<0.00050	<0.00050	<0.00050	0.00051	<0.00050
	Zinc (Zn)-Dissolved (mg/L)		0.0016	0.0016	0.0012	0.0021	0.0013
	Zirconium (Zr)-Dissolved (mg/L)		<0.00030	<0.00030	<0.00030	<0.00030	<0.00030

\* Please refer to the Reference Information section for an explanation of any qualifiers detected.

## ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID	L1840282-6 Water 04-OCT-16 12:15 WQ-TP	L1840282-7 Water 05-OCT-16 09:30 WQ-PW	L1840282-8 Water 04-OCT-16 09:40 WQ-PC-U	L1840282-9 Water 04-OCT-16 09:00 WQ-PC-D	L1840282-10 Water 04-OCT-16 09:10 WQ-PC-D-R	
Grouping	Analyte					
<b>WATER</b>						
<b>Dissolved Metals</b>	Calcium (Ca)-Dissolved (mg/L)	219		94.7	95.0	94.9
	Chromium (Cr)-Dissolved (mg/L)	<0.00010		<0.00010	<0.00010	<0.00010
	Cobalt (Co)-Dissolved (mg/L)	0.00041		0.00153	0.00118	0.00115
	Copper (Cu)-Dissolved (mg/L)	0.0158		0.00114	0.00144	0.00139
	Iron (Fe)-Dissolved (mg/L)	0.018		0.065	0.038	0.037
	Lead (Pb)-Dissolved (mg/L)	0.000478		0.000260	0.000229	0.000240
	Lithium (Li)-Dissolved (mg/L)	0.0101		0.0019	0.0019	0.0018
	Magnesium (Mg)-Dissolved (mg/L)	40.2		22.8	23.2	23.3
	Manganese (Mn)-Dissolved (mg/L)	0.120		1.33	1.29	1.26
	Mercury (Hg)-Dissolved (mg/L)	0.0000061		<0.0000050	<0.0000050	<0.0000050
	Molybdenum (Mo)-Dissolved (mg/L)	0.00120		0.000474	0.000501	0.000492
	Nickel (Ni)-Dissolved (mg/L)	0.00067		0.00091	0.00076	0.00076
	Phosphorus (P)-Dissolved (mg/L)	<0.050		<0.050	<0.050	<0.050
	Potassium (K)-Dissolved (mg/L)	14.9		1.28	1.39	1.35
	Selenium (Se)-Dissolved (mg/L)	0.000051		0.000066	0.000072	0.000069
	Silicon (Si)-Dissolved (mg/L)	3.28		6.46	6.58	6.51
	Silver (Ag)-Dissolved (mg/L)	0.000045		0.000012	<0.000010	<0.000010
	Sodium (Na)-Dissolved (mg/L)	13.8		6.29	6.46	6.54
	Strontium (Sr)-Dissolved (mg/L)	0.600		0.523	0.531	0.533
	Sulfur (S)-Dissolved (mg/L)	237		79.5	80.4	80.0
	Thallium (Tl)-Dissolved (mg/L)	0.000131		0.000019	0.000012	0.000012
	Tin (Sn)-Dissolved (mg/L)	<0.00010		<0.00010	<0.00010	<0.00010
	Titanium (Ti)-Dissolved (mg/L)	<0.00030		<0.00030	<0.00030	<0.00030
	Uranium (U)-Dissolved (mg/L)	0.000957		0.00212	0.00222	0.00226
	Vanadium (V)-Dissolved (mg/L)	<0.00050		<0.00050	0.00051	0.00051
	Zinc (Zn)-Dissolved (mg/L)	0.0383		0.0366	0.0287	0.0259
	Zirconium (Zr)-Dissolved (mg/L)	<0.00030		<0.00030	<0.00030	<0.00030

\* Please refer to the Reference Information section for an explanation of any qualifiers detected.

## ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	Description	Sampled Date	Sampled Time	Client ID	L1840282-11	L1840282-12	L1840282-13	L1840282-15	L1840282-16
					Water	Water	Water	Water	Water
		03-OCT-16	16:40	WQ-DC-R	03-OCT-16	05-OCT-16	05-OCT-16	04-OCT-16	04-OCT-16
					16:40	08:50		11:30	11:40
					WQ-DC-R	FIELD BLANK	TRAVEL BLANK	WQ-SEEP	WQ-SEEP-R
Grouping	Analyte								
<b>WATER</b>									
<b>Dissolved Metals</b>	Calcium (Ca)-Dissolved (mg/L)	145	<0.050	<0.050	234	226			
	Chromium (Cr)-Dissolved (mg/L)	0.00030	<0.00010	<0.00010	0.00051	0.00041			
	Cobalt (Co)-Dissolved (mg/L)	0.00111	<0.00010	<0.00010	0.00783	0.00732			
	Copper (Cu)-Dissolved (mg/L)	0.00087	<0.00020	<0.00020	0.00258	0.00235			
	Iron (Fe)-Dissolved (mg/L)	0.748	<0.010	<0.010	7.90	7.44			
	Lead (Pb)-Dissolved (mg/L)	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050			
	Lithium (Li)-Dissolved (mg/L)	0.0018	<0.0010	<0.0010	<0.0010	<0.0010			
	Magnesium (Mg)-Dissolved (mg/L)	52.6	<0.10	<0.10	57.9	53.4			
	Manganese (Mn)-Dissolved (mg/L)	0.898	<0.00010	<0.00010	5.46	5.17			
	Mercury (Hg)-Dissolved (mg/L)	<0.0000050	<0.0000050	<0.0000050	0.0000054	0.0000055			
	Molybdenum (Mo)-Dissolved (mg/L)	0.000370	<0.000050	<0.000050	0.000921	0.000887			
	Nickel (Ni)-Dissolved (mg/L)	0.00094	<0.00050	<0.00050	0.00333	0.00309			
	Phosphorus (P)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050			
	Potassium (K)-Dissolved (mg/L)	2.76	<0.10	<0.10	6.39	6.01			
	Selenium (Se)-Dissolved (mg/L)	0.000079	<0.000050	<0.000050	0.000286	0.000236			
	Silicon (Si)-Dissolved (mg/L)	5.87	<0.050	<0.050	8.00	7.71			
	Silver (Ag)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010			
	Sodium (Na)-Dissolved (mg/L)	11.3	<0.050	<0.050	39.0	36.0			
	Strontium (Sr)-Dissolved (mg/L)	0.468	<0.00020	<0.00020	0.715	0.697			
	Sulfur (S)-Dissolved (mg/L)	144	<0.50	<0.50	235	223			
	Thallium (Tl)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010			
	Tin (Sn)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010			
	Titanium (Ti)-Dissolved (mg/L)	0.00043	<0.00030	<0.00030	0.00101	0.00074			
	Uranium (U)-Dissolved (mg/L)	0.00153	<0.000010	<0.000010	0.00213	0.00212			
	Vanadium (V)-Dissolved (mg/L)	<0.00050	<0.00050	<0.00050	0.00192	0.00177			
	Zinc (Zn)-Dissolved (mg/L)	0.0065	<0.0010	<0.0010	0.0398	0.0345			
	Zirconium (Zr)-Dissolved (mg/L)	<0.00030	<0.00030	<0.00030	0.00064	0.00063			

\* Please refer to the Reference Information section for an explanation of any qualifiers detected.

## ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1840282-17	L1840282-18	L1840282-19	L1840282-20
		Description	Water	Water	Water	Water
		Sampled Date	03-OCT-16	03-OCT-16	04-OCT-16	04-OCT-16
		Sampled Time	18:25	19:25	12:40	10:55
		Client ID	WQ-DC-DX+105	WQ-DC-D16	WQ-DC-B	WQ-DC-U
Grouping	Analyte					
<b>WATER</b>						
<b>Dissolved Metals</b>	Calcium (Ca)-Dissolved (mg/L)		162	207	186	191
	Chromium (Cr)-Dissolved (mg/L)		<0.00010	<0.00010	0.00011	0.00014
	Cobalt (Co)-Dissolved (mg/L)		0.00069	0.00034	0.00045	0.00228
	Copper (Cu)-Dissolved (mg/L)		<0.00020	0.00055	0.00036	0.00084
	Iron (Fe)-Dissolved (mg/L)		0.111	0.434	2.86	1.12
	Lead (Pb)-Dissolved (mg/L)		<0.000050	<0.000050	<0.000050	<0.000050
	Lithium (Li)-Dissolved (mg/L)		0.0082	0.0073	0.0032	0.0023
	Magnesium (Mg)-Dissolved (mg/L)		51.9	89.9	81.8	59.8
	Manganese (Mn)-Dissolved (mg/L)		0.960	0.802	0.693	2.19
	Mercury (Hg)-Dissolved (mg/L)		<0.0000050	<0.0000050	<0.0000050	<0.0000050
	Molybdenum (Mo)-Dissolved (mg/L)		0.000292	0.000242	0.000299	0.000479
	Nickel (Ni)-Dissolved (mg/L)		0.00151	0.00078	0.00067	0.00138
	Phosphorus (P)-Dissolved (mg/L)		<0.050	<0.050	<0.050	<0.050
	Potassium (K)-Dissolved (mg/L)		3.41	4.58	3.21	3.82
	Selenium (Se)-Dissolved (mg/L)		<0.000050	<0.000050	0.000064	0.000131
	Silicon (Si)-Dissolved (mg/L)		6.49	6.04	5.83	6.33
	Silver (Ag)-Dissolved (mg/L)		<0.000010	<0.000010	<0.000010	<0.000010
	Sodium (Na)-Dissolved (mg/L)		4.71	6.98	9.14	16.8
	Strontium (Sr)-Dissolved (mg/L)		0.392	0.530	0.625	0.614
	Sulfur (S)-Dissolved (mg/L)		136	221	214	191
	Thallium (Tl)-Dissolved (mg/L)		0.000094	0.000023	<0.000010	<0.000010
	Tin (Sn)-Dissolved (mg/L)		<0.00010	<0.00010	<0.00010	<0.00010
	Titanium (Ti)-Dissolved (mg/L)		<0.00030	<0.00030	<0.00030	0.00036
	Uranium (U)-Dissolved (mg/L)		0.00399	0.00318	0.00231	0.00179
	Vanadium (V)-Dissolved (mg/L)		<0.00050	<0.00050	<0.00050	<0.00050
	Zinc (Zn)-Dissolved (mg/L)		0.753	0.270	0.0177	0.0090
	Zirconium (Zr)-Dissolved (mg/L)		<0.00030	<0.00030	<0.00030	<0.00030

\* Please refer to the Reference Information section for an explanation of any qualifiers detected.

## Reference Information

## Qualifiers for Individual Samples Listed:

Sample Number	Client Sample ID	Qualifier	Description
L1840282-13	TRAVEL BLANK	WSMD	Water sample(s) for dissolved mercury analysis was not submitted in glass or PTFE container with HCl preservative. Results may be biased low.
		LPMB	Lab-Preserved for Total Metals. Sample received with pH > 2 and preserved at the lab. Total Metals results may be biased low.
L1840282-7	WQ-PW	LPMB	Lab-Preserved for Total Metals. Sample received with pH > 2 and preserved at the lab. Total Metals results may be biased low.

## QC Samples with Qualifiers &amp; Comments:

QC Type Description	Parameter	Qualifier	Applies to Sample Number(s)
Method Blank	Sodium (Na)-Dissolved	MB-LOR	L1840282-13
Method Blank	Zinc (Zn)-Dissolved	MB-LOR	L1840282-13
Method Blank	Magnesium (Mg)-Total	MB-LOR	L1840282-7
Matrix Spike	Barium (Ba)-Dissolved	MS-B	L1840282-1, -10, -11, -12, -15, -16, -17, -18, -19, -2, -20, -3, -4, -5, -6, -8, -9
Matrix Spike	Barium (Ba)-Dissolved	MS-B	L1840282-13
Matrix Spike	Calcium (Ca)-Dissolved	MS-B	L1840282-1, -10, -11, -12, -15, -16, -17, -18, -19, -2, -20, -3, -4, -5, -6, -8, -9
Matrix Spike	Calcium (Ca)-Dissolved	MS-B	L1840282-13
Matrix Spike	Magnesium (Mg)-Dissolved	MS-B	L1840282-1, -10, -11, -12, -15, -16, -17, -18, -19, -2, -20, -3, -4, -5, -6, -8, -9
Matrix Spike	Magnesium (Mg)-Dissolved	MS-B	L1840282-13
Matrix Spike	Selenium (Se)-Dissolved	MS-B	L1840282-13
Matrix Spike	Silicon (Si)-Dissolved	MS-B	L1840282-1, -10, -11, -12, -15, -16, -17, -18, -19, -2, -20, -3, -4, -5, -6, -8, -9
Matrix Spike	Sodium (Na)-Dissolved	MS-B	L1840282-1, -10, -11, -12, -15, -16, -17, -18, -19, -2, -20, -3, -4, -5, -6, -8, -9
Matrix Spike	Sodium (Na)-Dissolved	MS-B	L1840282-13
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L1840282-1, -10, -11, -12, -15, -16, -17, -18, -19, -2, -20, -3, -4, -5, -6, -8, -9
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L1840282-13
Matrix Spike	Sulfur (S)-Dissolved	MS-B	L1840282-13
Matrix Spike	Uranium (U)-Dissolved	MS-B	L1840282-1, -10, -11, -12, -15, -16, -17, -18, -19, -2, -20, -3, -4, -5, -6, -8, -9
Matrix Spike	Uranium (U)-Dissolved	MS-B	L1840282-13
Matrix Spike	Aluminum (Al)-Total	MS-B	L1840282-10, -11, -12, -15, -16, -17, -18, -19, -20, -8, -9
Matrix Spike	Barium (Ba)-Total	MS-B	L1840282-1, -2, -3, -4, -5, -6
Matrix Spike	Barium (Ba)-Total	MS-B	L1840282-10, -11, -12, -15, -16, -17, -18, -19, -20, -8, -9
Matrix Spike	Boron (B)-Total	MS-B	L1840282-7
Matrix Spike	Calcium (Ca)-Total	MS-B	L1840282-7
Matrix Spike	Calcium (Ca)-Total	MS-B	L1840282-1, -2, -3, -4, -5, -6
Matrix Spike	Calcium (Ca)-Total	MS-B	L1840282-10, -11, -12, -15, -16, -17, -18, -19, -20, -8, -9
Matrix Spike	Copper (Cu)-Total	MS-B	L1840282-7
Matrix Spike	Iron (Fe)-Total	MS-B	L1840282-10, -11, -12, -15, -16, -17, -18, -19, -20, -8, -9
Matrix Spike	Magnesium (Mg)-Total	MS-B	L1840282-7
Matrix Spike	Magnesium (Mg)-Total	MS-B	L1840282-1, -2, -3, -4, -5, -6
Matrix Spike	Magnesium (Mg)-Total	MS-B	L1840282-10, -11, -12, -15, -16, -17, -18, -19, -20, -8, -9
Matrix Spike	Manganese (Mn)-Total	MS-B	L1840282-7
Matrix Spike	Manganese (Mn)-Total	MS-B	L1840282-10, -11, -12, -15, -16, -17, -18, -19, -20, -8, -9
Matrix Spike	Potassium (K)-Total	MS-B	L1840282-7
Matrix Spike	Sodium (Na)-Total	MS-B	L1840282-7
Matrix Spike	Sodium (Na)-Total	MS-B	L1840282-1, -2, -3, -4, -5, -6
Matrix Spike	Sodium (Na)-Total	MS-B	L1840282-10, -11, -12, -15, -16, -17, -18, -19, -20, -8, -9
Matrix Spike	Strontium (Sr)-Total	MS-B	L1840282-1, -2, -3, -4, -5, -6
Matrix Spike	Strontium (Sr)-Total	MS-B	L1840282-10, -11, -12, -15, -16, -17, -18, -19, -20, -8, -9
Matrix Spike	Sulfur (S)-Total	MS-B	L1840282-10, -11, -12, -15, -16, -17, -18, -19, -20, -8, -9

## Qualifiers for Individual Parameters Listed:

## Reference Information

Qualifier	Description
DLDS	Detection Limit Raised: Dilution required due to high Dissolved Solids / Electrical Conductivity.
HTC	Hardness was calculated from Total Ca and/or Mg concentrations and may be biased high (dissolved Ca/Mg results unavailable).
MB-LOR	Method Blank exceeds ALS DQO. Limits of Reporting have been adjusted for samples with positive hits below 5x blank level.
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
PEHR	Parameter Exceeded Recommended Holding Time On Receipt: Proceed With Analysis As Requested.

### Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
<b>ALK-COL-VA</b>	Water	Alkalinity by Colourimetric (Automated)	EPA 310.2
This analysis is carried out using procedures adapted from EPA Method 310.2 "Alkalinity". Total Alkalinity is determined using the methyl orange colourimetric method.			
<b>ALK-TITR-VA</b>	Water	Alkalinity Species by Titration	APHA 2320 Alkalinity
This analysis is carried out using procedures adapted from APHA Method 2320 "Alkalinity". Total alkalinity is determined by potentiometric titration to a pH 4.5 endpoint. Bicarbonate, carbonate and hydroxide alkalinity are calculated from phenolphthalein alkalinity and total alkalinity values.			
<b>BE-D-L-CCMS-VA</b>	Water	Diss. Be (low) in Water by CRC ICPMS	APHA 3030B/6020A (mod)
Water samples are filtered (0.45 um), preserved with nitric acid, and analyzed by CRC ICPMS.			
Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.			
<b>BE-T-L-CCMS-VA</b>	Water	Total Be (Low) in Water by CRC ICPMS	EPA 200.2/6020A (mod)
Water samples are digested with nitric and hydrochloric acids, and analyzed by CRC ICPMS.			
Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.			
<b>BR-L-IC-N-VA</b>	Water	Bromide in Water by IC (Low Level)	EPA 300.1 (mod)
Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.			
<b>CL-IC-N-VA</b>	Water	Chloride in Water by IC	EPA 300.1 (mod)
Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.			
<b>CN-CNO-WT</b>	Water	Cyanate	APHA 4500-CN-L
This analysis is carried out using procedures adapted from APHA method 4500-CN "Cyanide". Cyanate is determined by the Cyanate hydrolysis method using an ammonia selective electrode			
<b>CN-SCN-VA</b>	Water	Thiocyanate by Colour	APHA 4500-CN CYANIDE
This analysis is carried out using procedures adapted from APHA Method 4500-CN- M "Thiocyanate" Thiocyanate is determined by the ferric nitrate colourimetric method.			
<b>CN-T-CFA-VA</b>	Water	Total Cyanide in water by CFA	ISO 14403:2002
This analysis is carried out using procedures adapted from ISO Method 14403:2002 "Determination of Total Cyanide using Flow Analysis (FIA and CFA)". Total or strong acid dissociable (SAD) cyanide is determined by in-line UV digestion along with sample distillation and final determination by colourimetric analysis. Method Limitation: This method is susceptible to interference from thiocyanate (SCN). If SCN is present in the sample, there could be a positive interference with this method, but it would be less than 1% and could be as low as zero.			
<b>CN-WAD-CFA-VA</b>	Water	Weak Acid Diss. Cyanide in water by CFA	APHA 4500-CN CYANIDE
This analysis is carried out using procedures adapted from APHA Method 4500-CN I. "Weak Acid Dissociable Cyanide". Weak Acid Dissociable (WAD) cyanide is determined by in-line sample distillation with final determination by colourimetric analysis.			
<b>COLOUR-TRUE-VA</b>	Water	Colour (True) by Spectrometer	BCMOE Colour Single Wavelength
This analysis is carried out using procedures adapted from British Columbia Environmental Manual "Colour- Single Wavelength." Colour (True Colour) is determined by filtering a sample through a 0.45 micron membrane filter followed by analysis of the filtrate using the platinum-cobalt colourimetric method.			
Colour measurements can be highly pH dependent, and apply to the pH of the sample as received (at time of testing), without pH adjustment. Concurrent measurement of sample pH is recommended.			
<b>EC-PCT-VA</b>	Water	Conductivity (Automated)	APHA 2510 Auto. Conduc.
This analysis is carried out using procedures adapted from APHA Method 2510 "Conductivity". Conductivity is determined using a conductivity electrode.			
<b>ECOLI-COLI-HLTH-VA</b>	Water	E.coli by Collert	APHA METHOD 9223
This analysis is carried out using procedures adapted from APHA Method 9223 "Enzyme Substrate Coliform Test". E. coli and Total Coliform are determined simultaneously. The sample is mixed with a mixture hydrolyzable substrates and then sealed in a multi-well packet. The packet is incubated for 18 or 24 hours and then the number of wells exhibiting a positive response are counted. The final result is obtained by comparing the positive responses to a probability table.			

## Reference Information

<b>F-IC-N-VA</b>	Water	Fluoride in Water by IC	EPA 300.1 (mod)
Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.			
<b>HARDNESS-CALC-VA</b>	Water	Hardness	APHA 2340B
Hardness (also known as Total Hardness) is calculated from the sum of Calcium and Magnesium concentrations, expressed in CaCO <sub>3</sub> equivalents. Dissolved Calcium and Magnesium concentrations are preferentially used for the hardness calculation.			
<b>HG-D-CVAA-VA</b>	Water	Diss. Mercury in Water by CVAAS or CVAFS	APHA 3030B/EPA 1631E (mod)
Water samples are filtered (0.45 um), preserved with hydrochloric acid, then undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS or CVAFS.			
<b>HG-T-CVAA-VA</b>	Water	Total Mercury in Water by CVAAS or CVAFS	EPA 1631E (mod)
Water samples undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS or CVAFS.			
<b>HG-TOT-CVAFS-VA</b>	Water	Total Hg in Water by CVAFS LOR=50ppt	EPA 1631E (mod)
This analysis is carried out using procedures adapted from "Standard Methods for the Examination of Water and Wastewater" published by the American Public Health Association, and with procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846 published by the United States Environmental Protection Agency (EPA). The procedure involves a cold-oxidation of the acidified sample using bromine monochloride prior to reduction of the sample with stannous chloride. Instrumental analysis is by cold vapour atomic fluorescence spectrophotometry or atomic absorption spectrophotometry (EPA Method 245.7).			
<b>IONBALANCE-VA</b>	Water	Ion Balance Calculation	APHA 1030E
Cation Sum, Anion Sum, and Ion Balance (as % difference) are calculated based on guidance from APHA Standard Methods (1030E Checking Correctness of Analysis). Because all aqueous solutions are electrically neutral, the calculated ion balance (% difference of cations minus anions) should be near-zero.			
Cation and Anion Sums are the total meq/L concentration of major cations and anions. Dissolved species are used where available. Minor ions are included where data is present. Ion Balance is calculated as:			
Ion Balance (%) = [Cation Sum-Anion Sum] / [Cation Sum+Anion Sum]			
<b>MET-D-CCMS-VA</b>	Water	Dissolved Metals in Water by CRC ICPMS	APHA 3030B/6020A (mod)
Water samples are filtered (0.45 um), preserved with nitric acid, and analyzed by CRC ICPMS.			
Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.			
<b>MET-T-CCMS-VA</b>	Water	Total Metals in Water by CRC ICPMS	EPA 200.2/6020A (mod)
Water samples are digested with nitric and hydrochloric acids, and analyzed by CRC ICPMS.			
Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.			
<b>NH3-F-VA</b>	Water	Ammonia in Water by Fluorescence	APHA 4500 NH3-NITROGEN (AMMONIA)
This analysis is carried out, on sulfuric acid preserved samples, using procedures modified from J. Environ. Monit., 2005, 7, 37 - 42, The Royal Society of Chemistry, "Flow-injection analysis with fluorescence detection for the determination of trace levels of ammonium in seawater", Roslyn J. Waston et al.			
<b>NH3-F-VA</b>	Water	Ammonia in Water by Fluorescence	J. ENVIRON. MONIT., 2005, 7, 37-42, RSC
This analysis is carried out, on sulfuric acid preserved samples, using procedures modified from J. Environ. Monit., 2005, 7, 37 - 42, The Royal Society of Chemistry, "Flow-injection analysis with fluorescence detection for the determination of trace levels of ammonium in seawater", Roslyn J. Waston et al.			
<b>NO2-L-IC-N-VA</b>	Water	Nitrite in Water by IC (Low Level)	EPA 300.1 (mod)
Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.			
<b>NO3-L-IC-N-VA</b>	Water	Nitrate in Water by IC (Low Level)	EPA 300.1 (mod)
Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.			
<b>PH-PCT-VA</b>	Water	pH by Meter (Automated)	APHA 4500-H "pH Value"
This analysis is carried out using procedures adapted from APHA Method 4500-H "pH Value". The pH is determined in the laboratory using a pH electrode			
It is recommended that this analysis be conducted in the field.			
<b>PH-PCT-VA</b>	Water	pH by Meter (Automated)	APHA 4500-H pH Value
This analysis is carried out using procedures adapted from APHA Method 4500-H "pH Value". The pH is determined in the laboratory using a pH electrode			
It is recommended that this analysis be conducted in the field.			



## Reference Information

**SO4-IC-N-VA**                      Water              Sulfate in Water by IC    EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

**TCOLI-COLI-HLTH-VA**              Water              Total coliform by Colilert    APHA METHOD 9223

This analysis is carried out using procedures adapted from APHA Method 9223 "Enzyme Substrate Coliform Test". E. coli and Total Coliform are determined simultaneously. The sample is mixed with a mixture hydrolyzable substrates and then sealed in a multi-well packet. The packet is incubated for 18 or 24 hours and then the number of wells exhibiting a positive response are counted. The final result is quantified by a statistical estimation of bacteria density (most probable number).

**TDS-CALC-VA**                      Water              TDS (Calculated)    APHA 1030E (20TH EDITION)

This analysis is carried out using procedures adapted from APHA 1030E "Checking Correctness of Analyses". The Total Dissolved Solids result is calculated from measured concentrations of anions and cations in the sample.

**TDS-VA**                      Water              Total Dissolved Solids by Gravimetric    APHA 2540 C - GRAVIMETRIC

This analysis is carried out using procedures adapted from APHA Method 2540 "Solids". Solids are determined gravimetrically. Total Dissolved Solids (TDS) are determined by filtering a sample through a glass fibre filter, TDS is determined by evaporating the filtrate to dryness at 180 degrees celsius.

**TSS-VA**                      Water              Total Suspended Solids by Gravimetric    APHA 2540 D - GRAVIMETRIC

This analysis is carried out using procedures adapted from APHA Method 2540 "Solids". Solids are determined gravimetrically. Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, TSS is determined by drying the filter at 104 degrees celsius. Samples containing very high dissolved solid content (i.e. seawaters, brackish waters) may produce a positive bias by this method. Alternate analysis methods are available for these types of samples.

**TURBIDITY-VA**                      Water              Turbidity by Meter    APHA 2130 "Turbidity"

This analysis is carried out using procedures adapted from APHA Method 2130 "Turbidity". Turbidity is determined by the nephelometric method.

**TURBIDITY-VA**                      Water              Turbidity by Meter    APHA 2130 Turbidity

This analysis is carried out using procedures adapted from APHA Method 2130 "Turbidity". Turbidity is determined by the nephelometric method.

\*\* ALS test methods may incorporate modifications from specified reference methods to improve performance.

*The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:*

Laboratory Definition Code	Laboratory Location
WT	ALS ENVIRONMENTAL - WATERLOO, ONTARIO, CANADA
VA	ALS ENVIRONMENTAL - VANCOUVER, BRITISH COLUMBIA, CANADA

### Chain of Custody Numbers:

#### GLOSSARY OF REPORT TERMS

*Surrogate - A compound that is similar in behaviour to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.*

*mg/kg - milligrams per kilogram based on dry weight of sample.*

*mg/kg wwt - milligrams per kilogram based on wet weight of sample.*

*mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight of sample.*

*mg/L - milligrams per litre.*

*< - Less than.*

*D.L. - The reported Detection Limit, also known as the Limit of Reporting (LOR).*

*N/A - Result not available. Refer to qualifier code and definition for explanation.*

*Test results reported relate only to the samples as received by the laboratory.*

**UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.**

*Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.*



**ALS Environmental**  
ATTN: Shane Ramos  
Suite 100-8081 Lougheed Hwy.  
Burnaby, BC  
V5A 1W9

Report Date: October 21, 2016  
Work Order: 161079

## Data Report

**Species:** Rainbow trout (*Oncorhynchus mykiss*)  
**Protocol:** EPS 1/RM/13 (Second Ed. 2000 with 2007 & 2016 amendments)

**Table 1.** Results for the 96-h rainbow trout acute LC50 toxicity test.

Sample ID	Collection Date and Time	96-h LC50 (%v/v) [95% CL]
L1840282-14 WQ-SEEP-LC50	October 4, 2016 @ N/A	73.5 [67.8 - 79.7]

N/A = Not Available, CL = Confidence Limits.

The test met performance criterion and there were no deviations from the test method. The results relate only to the sample tested.

Yvonne Lam, B.Sc.  
Laboratory Biologist

Reviewed By:  
Edmund Canaria, R.P.Bio  
Senior Reviewer

Rainbow Trout Summary Sheet

Client: ALS

Start Date/Time: Oct 7 116 @ 1605 h

Work Order No.: 161079

Test Species: Oncorhynchus mykiss

Sample Information:

Sample ID: L184028214 WQ-SEEP-LC50  
Sample Date: Oct 4 116  
Date Received: Oct 7 116  
Sample Volume: 2 x 20 L  
Other: /

Test Validity Criteria:

≥ 90% control survival

WQ Ranges:

T (°C) = 15 ± 1; DO (mg/L) = 7.0 to 10.3; pH = 5.5 to 8.5

Dilution Water:

Type: Dechlorinated Municipal Tap Water  
Hardness (mg/L CaCO<sub>3</sub>): 10  
Alkalinity (mg/L CaCO<sub>3</sub>): 11

Test Organism Information:

Batch No.: 091416  
Source: Miracle Springs  
No. Fish/Volume (L): 10/12L  
Loading Density (g/L): 0.33  
Mean Length ± SD (mm): 30 ± 1  
Mean Weight ± SD (g): 0.40 ± 0.08

Range: 28 - 31  
Range: 0.29 - 0.53

Zinc Reference Toxicant Results:

Reference Toxicant ID: RTZn50  
Stock Solution ID: 16Zn02  
Date Initiated: Sept 28/16  
96-h LC50 (95% CL): 70.7 (52.0-96.3) mg/L Zn

Reference Toxicant Mean and Historical Range: 63.9 (25.2 - 162.1) mg/L Zn  
Reference Toxicant CV (%): 59%

Test Results: The 96h LC50 is estimated to be 73.5 % (v/v) with 95% confidence limits between 67.8 to 79.7 % (v/v).

Reviewed by: [Signature]

Date reviewed: Oct 21, 2016

### 96-Hour Rainbow Trout Toxicity Test Data Sheet

Client/Project#: ALS  
 Sample I.D.: L1840282-14 WQ-SEEP-LCSO  
 W.O. #: 161079  
 RBT Batch #: 091416  
 Date Collected/Time: October 4/16 @ N/A  
 Date Setup/Time: October 7/16 @ 1605h  
 Sample Setup By: EE YNL  
YNL

Number Fish/Volume: 10/12L  
 7-d % Mortality: 1.3  
 Total Pre-aeration Time (mins): 30  
 Aeration rate adjusted to 6.5 ± 1 mL/min/L? (Y/N): Y

Thermometer: CER# 2      D.O. meter: 2  
 Cond./Salinity: 2              pH meter: 1

Undiluted Sample WQ			
Parameters	Initial WQ	Adjustment	30 min WQ
Temp °C	14.0	/	14.0
pH	7.0	/	7.1
D.O. (mg/L)	9.4	/	9.8
Cond. (µS/cm)	1520	/	1518
Salinity (ppt)	0.8	/	0.8

Concentration (% v/v)	# Survivors						Temperature (°C)					Dissolved Oxygen (mg/L)					pH					Conductivity (µS/cm)		
	1	2	4	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	96
(+)				10	10	10	10	15.0	15.0	15.0	15.0	15.0	9.9	9.8	9.9	9.8	9.8	7.1	6.9	7.0	7.0	7.0	33	42
6.25				10	10	10	10	15.0	15.0	15.0	15.0	15.0	9.8	9.8	9.7	9.7	9.9	7.1	7.1	7.2	7.2	7.2	198	211
12.5				10	10	10	10	15.0	15.0	15.0	15.0	15.0	9.8	9.9	9.8	9.7	9.8	7.1	7.3	7.5	7.5	7.5	359	369
25				10	10	10	10	14.5	15.0	15.0	15.0	15.0	9.8	9.8	9.7	9.8	9.8	7.0	7.4	7.7	7.7	7.7	492	497
50				10	10	10	10	14.5	15.0	15.0	15.0	15.0	9.7	9.9	9.7	9.9	9.9	7.1	7.8	7.9	7.9	8.0	824	840
100				10	10	4	1	14.0	15.0	15.0	15.0	15.0	9.8	9.9	9.8	9.9	9.9	7.1	7.1	7.3	8.3	8.3	1518	1517
Initials				AY	AY	EL	EL	EE	AY	AY	EL	EL	EE	AY	AY	EL	EL	EE	AY	AY	EL	EL	EE	EL

Sample Description/Comments: orange colour, turbid, no odour, no particulates

Fish Description at 96 h: All <sup>surviving</sup> fish appear normal      Number of Stressed Fish at 96 h: 0

Other Observations: \_\_\_\_\_

Reviewed by:       Date Reviewed: Oct 21, 2016

**CETIS Analytical Report**

Report Date: 12 Oct-16 10:33 (p 1 of 2)

Test Code: 161079 | 04-0552-2582

Fish 96-h Acute Survival Test				Nautilus Environmental			
Analysis ID:	19-8363-1501	Endpoint:	96h Survival Rate	CETIS Version:	CETISv1.8.7		
Analyzed:	12 Oct-16 10:27	Analysis:	Trimmed Spearman-Kärber	Official Results:	Yes		
Batch ID:	20-4678-2792	Test Type:	Survival (96h)	Analyst:	Eric Cheung		
Start Date:	07 Oct-16 16:05	Protocol:	EC/EPS 1/RM/13	Diluent:	Dechlorinated Tap Water		
Ending Date:	11 Oct-16 16:05	Species:	Oncorhynchus mykiss	Brine:			
Duration:	96h	Source:	Miracle Springs	Age:			
Sample ID:	00-7200-2930	Code:	44AAD72	Client:	ALS		
Sample Date:	04 Oct-16	Material:	Water Sample	Project:			
Receive Date:	07 Oct-16 08:30	Source:	ALS				
Sample Age:	88h (8.5 °C)	Station:	L1840282-14 WQ-SEEP-LC50				

**Trimmed Spearman-Kärber Estimates**

Threshold Option	Threshold	Trim	Mu	Sigma	EC50	95% LCL	95% UCL
Control Threshold	0	10.00%	1.866	0.01763	73.49	67.76	79.7

**96h Survival Rate Summary**

C-%	Control Type	Count	Calculated Variate(A/B)								
			Mean	Min	Max	Std Err	Std Dev	CV%	%Effect	A	B
0	Negative Control	1	1	1	1	0	0	0.0%	0.0%	10	10
6.25		1	1	1	1	0	0	0.0%	0.0%	10	10
12.5		1	1	1	1	0	0	0.0%	0.0%	10	10
25		1	1	1	1	0	0	0.0%	0.0%	10	10
50		1	1	1	1	0	0	0.0%	0.0%	10	10
100		1	0.1	0.1	0.1	0	0	0.0%	90.0%	1	10

**96h Survival Rate Detail**

C-%	Control Type	Rep 1
0	Negative Control	1
6.25		1
12.5		1
25		1
50		1
100		0.1

**96h Survival Rate Binomials**

C-%	Control Type	Rep 1
0	Negative Control	10/10
6.25		10/10
12.5		10/10
25		10/10
50		10/10
100		1/10

*EC*  
00-21/16

# CETIS Analytical Report

Report Date: 12 Oct-16 10:33 (p 2 of 2)  
Test Code: 161079 | 04-0552-2582

## Fish 96-h Acute Survival Test

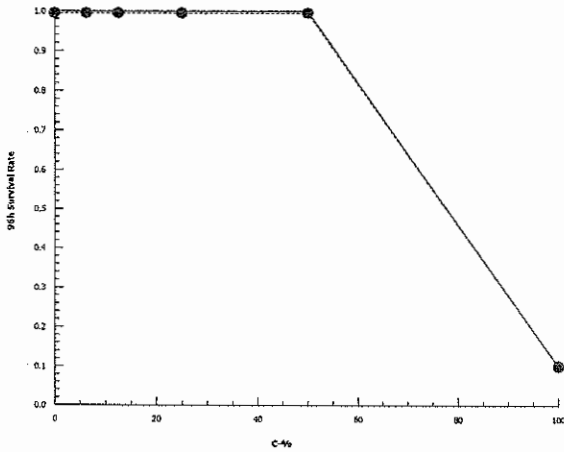
Nautilus Environmental

Analysis ID: 19-8363-1501  
Analyzed: 12 Oct-16 10:27

Endpoint: 96h Survival Rate  
Analysis: Trimmed Spearman-Kärber

CETIS Version: CETISv1.8.7  
Official Results: Yes

### Graphics





L1840282

VANCOUVER

Subcontract Request Form

Subcontract To:

NAUTILUS ENVIRONMENTAL

8664 COMMERCE COURT
BURNABY, BC V5A 4N7

NOTES: Please reference on final report and invoice: PO# L1840282
ALS requires QC data to be provided with your final results.
WC # 161079
RAINBOW TROUT LC50

Please see enclosed 1 sample(s) in 2 Container(s)

Table with columns: SAMPLE NUMBER, ANALYTICAL REQUIRED, DATE SAMPLED, DUE DATE, Priority Flag. Row 1: L1840282-14 WQ-SEEP-LC50, Trout Bioassay LC50 (96 Hour) - Nautilus (TROUT-LC50-96HR-NL 1), 10/4/2016, 10/17/2016

Subcontract Info Contact: Walter Lin (604) 253-4188
Analysis and reporting info contact: Shane Ramos
8081 LOUGHEED HWY
SUITE 100
BURNABY, BC V5A 1W9
Phone: (604) 253-4188 Email: Shane.Ramos@ALSGlobal.com

Please email confirmation of receipt to: Shane.Ramos@ALSGlobal.com

Shipped By: PAUL Date Shipped: Oct 7/2016
Received By: Nautilus Date Received: Oct 07/16 @ 08:30
Verified By: NY - Nari Yamamoto Date Verified:
Temperature: 8.5 C
Sample Integrity Issues: 2X 20L blue jugs

(Edi Env.)



Report To		Report Format / Distribution			Select Service Level Below (Rush Turnaround Time (TAT) is not available for all tests)																		
Company: EDI		Select Report Format: <input checked="" type="checkbox"/> PDF <input checked="" type="checkbox"/> EXCEL <input type="checkbox"/> EDD (DIGITAL)			<b>R</b> <input checked="" type="checkbox"/> Regular (Standard TAT if received by 3 pm - business days) <b>P</b> <input type="checkbox"/> Priority (2-4 bus. days if received by 3pm) 50% surcharge - contact ALS to confirm TAT <b>E</b> <input type="checkbox"/> Emergency (1-2 bus. days if received by 3pm) 100% surcharge - contact ALS to confirm TAT <b>E2</b> <input type="checkbox"/> Same day or weekend emergency - contact ALS to confirm TAT and surcharge																		
Contact: Lyndsay Doetzel		Quality Control (QC) Report with Report <input type="checkbox"/> Yes <input type="checkbox"/> No																					
Address: 2195 - 2nd Avenue Whitehorse, YT Y1A 3T8		<input type="checkbox"/> Criteria on Report - provide details below if box checked																					
Phone: 867-393-4882		Select Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX			Specify Date Required for E2, E or P:																		
		Email 1 or Fax: <a href="mailto:ldoetzel@edynamics.com">ldoetzel@edynamics.com</a>																					
		Email 2: <a href="mailto:Emilie.Hamm@gov.yk.ca">Emilie.Hamm@gov.yk.ca</a>																					
		Email 3: <a href="mailto:erik.pit@gov.yk.ca">erik.pit@gov.yk.ca</a>																					
Invoice To		Invoice Distribution			Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below																		
Same as Report To <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Select Invoice Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX																					
Copy of Invoice with Report <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Email 1 or Fax: <a href="mailto:sienner@edynamics.com">sienner@edynamics.com</a>																					
Company: EDI		Email 2: <a href="mailto:ldoetzel@edynamics.com">ldoetzel@edynamics.com</a>																					
Contact: S Jenner		Project Information																					
		Oil and Gas Required Fields (client use)																					
ALS Quote #: Q55559		Approver, ID:																					
Job #: MOUNT NANSEN 16-Y-0089		Cost Center:																					
PO / AFE:		GL Account:																					
LSD:		Routing Code:																					
		Activity Code:																					
		Location:																					
ALS Lab Work Order # (lab use only)		ALS Contact: Craig Flaherty			Sampler: GR M																		
ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)		Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	ALK-PCT-VA	EC-PCT-VA	PH-PCT-VA	ANIONS-ALL-IC-WR	TSS-MAN-WR	CN-WAD-CFA-VA	CN-T-CFA-VA	CN-CNO-WT	CN-SCN-VA	NH3-F-VA	MET-T-BCMDG-VA	MET-D-BCMDG-VA	IONBALANC-VA	TDS-CALC-VA	Number of Containers			
	WA-VC-UMN		3 -Oct-16	15:15	Water	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	9		
	WA-VC-R		3 -Oct-16	14:30	Water	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	9		
	WQ-VC-DBC		4 -Oct-16	16:45	Water	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	9		
	WB-BC		4 -Oct-16	18:30	Water	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	9		
	WA-VC-U		4 -Oct-16	18:10	Water	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	9		
	WQ-TP		4 -Oct-16	12:15	Water	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	9		
			-Oct-16		Water	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	9		
<b>Short Holding Time</b> <b>Rush Processing</b>																							
Drinking Water (DW) Samples <sup>1</sup> (client use)						Special Instructions / Specify Criteria to add on report (client Use)																	
Are samples taken from a Regulated DW System? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No																							
Are samples for human drinking water use? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No																							
SHIPMENT RELEASE (client use)						INITIAL SHIPMENT RECEPTION (lab use only)						FINAL SHIPMENT RECEPTION (lab use only)											
Released by: ALEX. MISCHLER		Date: 05-OCT-16		Time: 13:55		Received by: [Signature]		Date: 05-OCT-16		Time: 14:06		Received by: [Signature]		Date: 05-OCT-16		Time: 14:40							





L1840282-COFC

COC Number: 14 -

Page 2 of 5

<b>Report To</b>		<b>Report Format / Distribution</b>		<b>Select Service Level Below (Rush Turnaround Time (TAT) is not available for all tests)</b>	
Company:	EDI	Select Report Format:	<input checked="" type="checkbox"/> PDF <input checked="" type="checkbox"/> EXCEL <input type="checkbox"/> EDD (DIGITAL)	R	<input checked="" type="checkbox"/> Regular (Standard TAT if received by 3 pm - business days)
Contact:	Lyndsay Doetzel	Quality Control (QC) Report with Report	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	P	<input type="checkbox"/> Priority (2-4 bus. days if received by 3pm) 50% surcharge - contact ALS to confirm TAT
Address:	2195 - 2nd Avenue Whitehorse, YT Y1A 3T8	<input type="checkbox"/> Criteria on Report - provide details below if box checked		E	<input type="checkbox"/> Emergency (1-2 bus. days if received by 3pm) 100% surcharge - contact ALS to confirm TAT
Phone:	867-393-4882	Select Distribution:	<input type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX	E2	<input type="checkbox"/> Same day or weekend emergency - contact ALS to confirm TAT and surcharge
		Email 1 or Fax	ldoetzel@edynamics.com	Specify Date Required for E2,E or P:	
		Email 2	Emilie.Hamm@gov.yk.ca		
		Email 3	erik.pit@gov.yk.ca		

<b>Invoice To</b>		<b>Invoice Distribution</b>		<b>Analysis Request</b>								Number of Containers		
Same as Report To	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Select Invoice Distribution:	<input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX	Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below										
Copy of Invoice with Report	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Email 1 or Fax	sienner@edynamics.com											
Company:	EDI	Email 2	ldoetzel@edynamics.com											
<b>Project Information</b>		<b>Oil and Gas Required Fields (client use)</b>												
ALS Quote #:	Q55556	Approver ID:												
Job #:	MOUNT NANSEN 16-Y-0089	GL Account:												
PO / AFE:		Routing Code:												
LSD:		Activity Code:												
		Location:												
ALS Lab Work Order # (lab use only)		ALS Contact:	Craig Flaherty	Sampler:	AM GR	FULL-TOT-DW-WR								
ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type										
	WQ-PW	05 - Oct-16	09:30	Water	R									3

<b>Drinking Water (DW) Samples (client use)</b>		<b>Special Instructions / Specify Criteria to add on report (client use)</b>		<b>SAMPLE CONDITION AS RECEIVED (lab use only)</b>			
Are samples taken from a Regulated DW System? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				Frozen: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		SIF Observations: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Are samples for human drinking water use? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				Ice packs: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Custody seal intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
				Cooling initiated: <input type="checkbox"/>			
				INITIAL COOLER TEMPERATURES °C: 7.0		FINAL COOLER TEMPERATURES °C: 5.6, 4.1, 10.0	
SHIPMENT RELEASE (client use)		INITIAL SHIPMENT RECEPTION (lab use only)		FINAL SHIPMENT RECEPTION (lab use only)			
Released by:	ALEX MISCHLER	Date:	05-OCT-16	Time:	13:55	Received by:	[Signature]
		Date:	05-OCT-16	Time:	14:00	Date:	05-OCT-16
		Time:		Time:		Time:	14:40

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION      WHITE - LABORATORY COPY      YELLOW - CLIENT COPY

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.



L1840282-COFC

Report To		Report Format / Distribution			Select Service Level Below (Rush Turnaround Time (TAT) is not available for all tests)																
Company:	EDI	Select Report Format:	<input checked="" type="checkbox"/> PDF	<input checked="" type="checkbox"/> EXCEL	<input type="checkbox"/> EDD (DIGITAL)	<b>R</b> <input checked="" type="checkbox"/> Regular (Standard TAT if received by 3pm - business days) <b>P</b> <input type="checkbox"/> Priority (2-4 bus. days if received by 3pm) 50% surcharge - contact ALS to confirm TAT <b>E</b> <input type="checkbox"/> Emergency (1-2 bus. days if received by 3pm) 100% surcharge - contact ALS to confirm TAT <b>E2</b> <input type="checkbox"/> Same day or weekend emergency - contact ALS to confirm TAT and surcharge															
Contact:	Lyndsay Doetzel	Quality Control (QC) Report with Report	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<b>Specify Date Required for E2,E or P:</b>																
Address:	2195 - 2nd Avenue Whitehorse, YT Y1A 3T8	<input type="checkbox"/> Criteria on Report - provide details below if box checked																			
Phone:	867-393-4882	Select Distribution:	<input checked="" type="checkbox"/> EMAIL	<input type="checkbox"/> MAIL	<input type="checkbox"/> FAX																
		Email 1 or Fax:	doetzel@edynamics.com																		
		Email 2:	Emilie.Hamm@gov.yk.ca																		
		Email 3:	erik.pit@gov.yk.ca																		
		<b>Analysis Request</b>																			
Invoice To Same as Report To <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Invoice Distribution			Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below																
Copy of Invoice with Report <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Select Invoice Distribution:																			
Company: EDI		Email 1 or Fax: sjenner@edynamics.com																			
Contact: S Jenner		Email 2: doetzel@edynamics.com																			
<b>Project Information</b>		<b>Oil and Gas Required Fields (client use)</b>																			
ALS Quote #:	Q55559	Approver ID:																			
Job #:	MOUNT NANSEN 16-Y-0089	GL Account:																			
PO / AFE:		Routing Code:																			
LSD:		Location:																			
ALS Lab Work Order # (lab use only)		ALS Contact:	Craig Flaherty	Sampler:	GR AM																
ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)			Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	ALK-PCT-VA	ANIONS-ALL-IC-WR	CN-WAD-CFA-VA	CN-CNO-WT	CN-SCN-VA	NH3-F-VA	MET-T-BCMDG-VA	MET-D-BCMDG-VA	IONBALANC-VA	TDS-CALC-VA	Number of Containers				
	WQ-PC-U			4 -Oct-16	9:40	Water	R	R	R	R	R	R	R	R	R	R	9				
	WQ-PC-D			4 -Oct-16	9:00	Water	R	R	R	R	R	R	R	R	R	R	9				
	WQ-PC-D-R			4 -Oct-16	9:10	Water	R	R	R	R	R	R	R	R	R	R	9				
	WQ-PC-R			3 -Oct-16	16:40	Water	R	R	R	R	R	R	R	R	R	R	9				
	FIELD BLANK			5 -Oct-16	8:50	Water	R	R	R	R	R	R	R	R	R	R	9				
	TRAVEL BLANK			5 -Oct-16		Water	R	R	R	R	R	R	R	R	R	R	9				
				-Oct-16		Water	R	R	R	R	R	R	R	R	R	R	9				
<b>Short Holding Time Rush Processing</b>																					
Drinking Water (DW) Samples <sup>1</sup> (client use)				Special Instructions / Specify Criteria to add on report (client use)																	
Are samples taken from a Regulated DW System? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No																					
Are samples for human drinking water use? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No																					
SHIPMENT RELEASE (client use)				INITIAL SHIPMENT RECEPTION (lab use only)				SAMPLE CONDITION AS RECEIVED (lab use only)													
Released by:	ALEX. MISCHLER	Date:	05-Oct-16	Time:	13:55	Received by:	[Signature]	Date:	05-Oct-16	Time:	14:30	Frozen <input type="checkbox"/> SIF Observations? Yes <input type="checkbox"/> No <input type="checkbox"/> Ice packs Yes <input type="checkbox"/> No <input type="checkbox"/> Custody seal intact Yes <input type="checkbox"/> No <input type="checkbox"/> Cooling initiated <input type="checkbox"/> INITIAL COOLER TEMPERATURES °C: 7.0 FINAL COOLER TEMPERATURES °C: 7.0 Date: 05 Oct 2016 Time: 14:40									
SHIPMENT RELEASE (client use)				INITIAL SHIPMENT RECEPTION (lab use only)				FINAL SHIPMENT RECEPTION (lab use only)													
Released by:	ALEX. MISCHLER	Date:	05-Oct-16	Time:	13:55	Received by:	[Signature]	Date:	05-Oct-16	Time:	14:40	Received by: LMC Date: 05 Oct 2016 Time: 14:40									



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Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878



L1840282-COFC

COC Number: 14 -

Page 4 of 5

<b>Report To</b> Company: EDI Contact: Lyndsay Doetzel Address: 2195 - 2nd Avenue Whitehorse, YT Y1A 3T8 Phone: 867-393-4882		<b>Report Format / Distribution</b> Select Report Format: <input checked="" type="checkbox"/> PDF <input checked="" type="checkbox"/> EXCEL <input type="checkbox"/> EDD (DIGITAL) Quality Control (QC) Report with Report <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Criteria on Report - provide details below if box checked Select Distribution: <input type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX Email 1 or Fax: ldoetzel@edynamics.com Email 2: erk.pit@gov.yk.ca Email 3: Emille.Hamm@gov.yk.ca		<b>Select Service Level Below (Rush Turnaround Time (TAT) is not available for all tests)</b> R <input checked="" type="checkbox"/> Regular (Standard TAT if received by 3 pm - business days) P <input type="checkbox"/> Priority (2-4 bus. days if received by 3pm) 50% surcharge - contact ALS to confirm TAT E <input type="checkbox"/> Emergency (1-2 bus. days if received by 3pm) 100% surcharge - contact ALS to confirm TAT E2 <input type="checkbox"/> Same day or weekend emergency - contact ALS to confirm TAT and surcharge Specify Date Required for E2, E or P:						
<b>Invoice To</b> Same as Report To <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Copy of Invoice with Report <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Company: EDI Contact: S Jenner		<b>Invoice Distribution</b> Select Invoice Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX Email 1 or Fax: sjenner@edynamics.com Email 2: ldoetzel@edynamics.com		<b>Analysis Request</b> Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below						
<b>Project Information</b> ALS Quote #: Q55559 Job #: MOUNT NANSEN 16Y0089 PO / AFE: LSD:		<b>Oil and Gas Required Fields (client use)</b> Approver ID: GL Account: Activity Code: Location:		Rainbow Trout LC50						
ALS Lab Work Order # (lab use only)		ALS Contact: Sean Stuppert CRAIG FLAHERTY		Sampler: GR AM						
<b>ALS Sample # (lab use only)</b>	<b>Sample Identification and/or Coordinates</b> (This description will appear on the report)			<b>Date</b> (dd-mmm-yy)	<b>Time</b> (hh:mm)	<b>Sample Type</b>			<b>Number of Containers</b>	
	<del>1650 (WQ-SEEP)</del> WQ-SEEP-LC50			4-Oct-16	11:30	Water	R		2	
<b>Drinking Water (DW) Samples (client use)</b> Are samples taken from a Regulated DW System? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Are samples for human drinking water use? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<b>Special Instructions / Specify Criteria to add on report (client Use)</b>				<b>SAMPLE CONDITION AS RECEIVED (lab use only)</b> Frozen <input type="checkbox"/> SIF Observations <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Ice packs Yes <input type="checkbox"/> No <input type="checkbox"/> Custody seal intact Yes <input type="checkbox"/> No <input type="checkbox"/> Cooling Initiated <input type="checkbox"/> INITIAL COOLER TEMPERATURES °C: 20.0 20.0 FINAL COOLER TEMPERATURES °C: 7.9 6.6 9.1 10.0				
<b>SHIPMENT RELEASE (client use)</b> Released by: ALEX. MISCHLER Date: 05-OCT-16 Time: 13:55		<b>INITIAL SHIPMENT RECEPTION (lab use only)</b> Received by: [Signature] Date: 2016 5 OCT Time: 14:00				<b>FINAL SHIPMENT RECEPTION (lab use only)</b> Received by: [Signature] Date: Oct 16 Time: 14:40				



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Canada Toll Free: 1 800 668 9878



L1840282-COFC

COC Number: 14 -

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<b>Report To</b>		<b>Report Format / Distribution</b>		<b>Select Service Level Below (Rush Turnaround Time (TAT) Is not available for all tests)</b>	
Company:	EDI	Select Report Format:	<input checked="" type="checkbox"/> PDF <input checked="" type="checkbox"/> EXCEL <input type="checkbox"/> EDD (DIGITAL)	<b>R</b> <input checked="" type="checkbox"/> Regular (Standard TAT if received by 3 pm - business days)	
Contact:	Lyndsay Doetzel	Quality Control (QC) Report with Report	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<b>P</b> <input type="checkbox"/> Priority (2-4 bus. days if received by 3pm) 50% surcharge - contact ALS to confirm TAT	
Address:	2195 - 2nd Avenue Whitehorse, YT Y1A 3T8	<input type="checkbox"/> Criteria on Report - provide details below if box checked		<b>E</b> <input type="checkbox"/> Emergency (1-2 bus. days if received by 3pm) 100% surcharge - contact ALS to confirm TAT	
Phone:	867-393-4882	Select Distribution:	<input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX	<b>E2</b> <input type="checkbox"/> Same day or weekend emergency - contact ALS to confirm TAT and surcharge	
		Email 1 or Fax	ldoetzel@edynamics.com	Specify Date Required for E2,E or P:	
		Email 2	Emilie.Hamm@gov.yk.ca		
		Email 3	erik.pit@gov.yk.ca		

<b>Invoice To</b>		<b>Invoice Distribution</b>		<b>Analysis Request</b>																																		
Same as Report To <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Select Invoice Distribution:		Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below																																		
Copy of Invoice with Report <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		<input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX				P	P	P	P	P	F/P																											
Company:	EDI	Email 1 or Fax	sienner@edynamics.com	<table border="1"> <tr> <td>ALK-PCT-VA, EC-PCT-VA, PH-PCT-VA</td> <td>ANIONS-ALL-IC-WR, TSS-MAN-WR</td> <td>CN-WAD-CFA-VA, CN-T-CFA-VA</td> <td>CN-CNO-WT</td> <td>CN-SCN-VA</td> <td>NH3-F-VA</td> <td>MET-T-BCMDG-VA</td> <td>MET-D-BCMDG-VA</td> <td>IONBALANC-VA, TDS-CALC-VA</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </table>										ALK-PCT-VA, EC-PCT-VA, PH-PCT-VA	ANIONS-ALL-IC-WR, TSS-MAN-WR	CN-WAD-CFA-VA, CN-T-CFA-VA	CN-CNO-WT	CN-SCN-VA	NH3-F-VA	MET-T-BCMDG-VA	MET-D-BCMDG-VA	IONBALANC-VA, TDS-CALC-VA																
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Contact:	S Jenner	Email 2	ldoetzel@edynamics.com																																			
<b>Project Information</b>		<b>Oil and Gas Required Fields (client use)</b>																																				
ALS Quote #:	Q55559	Approver ID:	Cost Center:																																			
Job #:	MOUNT NANSEN 16-Y-0089	GL Account:	Routing Code:																																			
PO / AFE:		Activity Code:																																				
LSD:		Location:																																				
<b>ALS Lab Work Order # (lab use only)</b>		ALS Contact:	Craig Flaherty	Sampler:	AM GR																																	

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	ALK-PCT-VA, EC-PCT-VA, PH-PCT-VA	ANIONS-ALL-IC-WR, TSS-MAN-WR	CN-WAD-CFA-VA, CN-T-CFA-VA	CN-CNO-WT	CN-SCN-VA	NH3-F-VA	MET-T-BCMDG-VA	MET-D-BCMDG-VA	IONBALANC-VA, TDS-CALC-VA												Number of Containers
	WQ - SEEP	04 -Oct-16	11:30	Water	R	R	R	R	R	R	R	R	R												9
	WQ - SEEP - R	04 -Oct-16	11:40	Water	R	R	R	R	R	R	R	R	R												9
	WQ - DC - DX + 105	03 -Oct-16	18:25	Water	R	R	R	R	R	R	R	R	R												9
	WQ - DC - D1b	3 -Oct-16	19:25	Water	R	R	R	R	R	R	R	R	R												9
	WQ - DC - B	4 -Oct-16	12:40	Water	R	R	R	R	R	R	R	R	R												9
	WQ - DC - U	4 -Oct-16	10:55	Water	R	R	R	R	R	R	R	R	R												9
		-Oct-16		Water	R	R	R	R	R	R	R	R	R												9

**Short Holding Time  
Rush Processing**

<b>Drinking Water (DW) Samples<sup>1</sup> (client use)</b>		<b>Special Instructions / Specify Criteria to add on report (client Use)</b>		<b>SAMPLE CONDITION AS RECEIVED (lab use only)</b>																			
Are samples taken from a Regulated DW System? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				Frozen <input type="checkbox"/> SIF Observations Yes <input type="checkbox"/> No <input type="checkbox"/> Ice packs Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Custody seal intact Yes <input type="checkbox"/> No <input type="checkbox"/> Cooling Initiated <input type="checkbox"/>																			
Are samples for human drinking water use? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				INITIAL COOLER TEMPERATURES °C: 7.5      FINAL COOLER TEMPERATURES °C: 4.10/NA																			
<b>SHIPMENT RELEASE (client use)</b>		<b>INITIAL SHIPMENT RECEPTION (lab use only)</b>		<b>FINAL SHIPMENT RECEPTION (lab use only)</b>																			
Released by:	ALEX MISCHLER	Date:	05-oct-16	Time:	13:55	Received by:	[Signature]	Date:	2016 15 OCT	Time:	14:06	Received by:	[Signature]	Date:	05/16	Time:	14:40						

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION  
WHITE - LABORATORY COPY      YELLOW - CLIENT COPY  
Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.  
1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.